



AFCTN Test Report 94-073

AFCTB-ID
94-040



TMSS Parsing Test



MIL-M-38784C, Appendix B, Template for Technical Manuals, Amendment Three



Document Type Definition

MAXIMA Corporation

DISA Contract #DCA100-93-D-0065

Quick Short Test Report

09 May 1994

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Prepared for
Electronic Systems Center
Air Force CALS Program Office
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For:
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09 May 1994

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Air Force CALS Test Bed

Notification of Test Results

09 May 1994

This notice documents the results of an Air Force CALS Test Bed (AFCTB) Quick Short Test Report (QSTR) evaluation of data submitted by:

MAXIMA Corporation

Identified as follows:

Title:	MIL-M-38784C, Appendix B, Template for Technical Manuals, Amendment 3, DTD Parsing Test
Program:	DISA
Program Office:	DISA
Contract No.:	DCA100-93-D-0065
QSTR No.:	AFCTB-ID 94-040

Received on the following media: **3.5" Diskette**

The results of the AFCTB Quick Short Test Report evaluation are as follows:

MIL-STD-1840A Media Format:	N/A
MIL-D-28000A IGES:	N/A
MIL-M-28001A SGML:	Pass
MIL-R-28002A Raster:	N/A
MIL-D-28003 CGM:	N/A

Formal results with associated disclaimer are documented and available from the AFCTB.

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1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of this informal test is to analyze Air Force Document Type Definitions (DTDs) for Standard Generalized Markup Language (SGML) syntax, using several commercial and public domain SGML parsers, prior to placing them in the Defense Information Systems Agency (DISA) Asset Source for Software Engineering Technology (ASSET) repository.

2. Test Parameters

Test Plan: AFCTB 94-040

Date of
Evaluation: 09 May 1994

Evaluator: George Elwood
Air Force CALS Test Bed
DET 2 HQ ESC/AV-2P
4027 Colonel Glenn Hwy
Suite 300
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Data
Originator: Kay Hill
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2372 Lakeview Drive
Beavercreek OH 45431
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Data
Description: Technical Manual Test
1 DTD

Data
Source System:

Text/SGML
SOFTWARE
Unknown

Evaluation Tools Used:

MIL-M-28001 (SGML)
PC 486/50
Exoterica XGMLNormalizer v1.2e3.2
Exoterica Validator v2.2 ex1
SoftQuad Author/Editor v2.1
McAfee & McAdam Sema Mark-it v2.3
Public Domain sgmls 1.0
Public Domain sgmls 1.1

Standards
Tested: MIL-M-28001B

3. 1840A Analysis

3.1 External Packaging

The 3.5" diskette was hand delivered to the Air Force CALS Test Bed (AFCTB). It was not enclosed in any type of container.

The files received by the AFCTB were not MIL-STD-1840A, and were not named per the standard conventions. The stated purpose of the evaluation was the basic data structure.

4. SGML Analysis

The AFCTB has several parsers available for evaluating submitted DTD and text files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. These products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings unless specified in the report.

The goal was to configure the DTD under analysis as it would normally be used. However, for this analysis it was necessary to modify the DTD adding the "DOCTYPE doc [" statement to the start and the companion "]">" to the end of the DTD under evaluation, as stated in the comments of the DTD. If the parser did not support a formal file pointing to the location of the ISO character sets, this was added.

The DTD file evaluated was D784CB0.A3, Appendix B, Template for Technical Manuals DTD, Amendment 3.

4.1 Exoterica Validator

The DTD file was evaluated using the Exoterica Validator *exl* parser. The basic DTD was modified by placing the concrete syntax file and "`<!DOCTYPE doc ["` at the start and the "`"]>`" at the end. The parser reported four errors and one warning. The errors relate to the missing instance and are not considered errors for this operation. The warning relates to the shorttitle element, which was set to ignore.

```
<!-- **Warning** in "\xgml\9440.dtd", line 1:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "SHORTTITLE".
-->
```

4.2 Exoterica XGML Normalizer

The DTD file was parsed using the Exoterica *XGMLNormalizer* parser. The concrete syntax and "`<!DOCTYPE doc ["` were added to the start and "`"]>`" to the end of the file. No errors or warnings were issued by this utility.

4.3 Sema Mark-it

The DTD file was evaluated using McAfee & McAdam's *Sema Mark-it* v2.3 parser. The file was modified by adding the concrete syntax and "`<!DOCTYPE doc ["` to the start and "`"]>`" to the end of the file. One error relating to a missing instance was reported. For this report this is not considered an error.

4.4 Public Domain sgmls

The DTD file was evaluated using the Public Domain *sgmls* parser versions 1.0 and 1.1. The file was modified by adding the "<!DOCTYPE doc [" to the start and "]">" to the end of the file. The DTD was further modified to point to the ISO character sets. No errors were reported by either parser.

4.5 SoftQuad Author/Editor

The DTD file was evaluated using SoftQuad's *Author/Editor* parser. The DTD was modified to point to the ISO character set. One error was reported during this operation. This product reported an ambiguous content model in the subfig element. The tag is shown below.

```
<!ELEMENT subfig    - - ((graphic | macrograph) & figtable? &  
                        legend?) >  
<!ATTLIST subfig    %secur; >
```

SoftQuad has indicated that this error is in their parser and will be corrected in the next release of software.

5. Conclusions and Recommendations

File D784CB0.A3, MIL-M-38784C, Appendix B, Amendment 3 DTD, conforms to the SGML syntax of ISO Standard 8879, as required by the CALS MIL-M-28001B specification.

The errors, warnings, and comments reported by the parser used in this evaluation do not indicate any syntactical variances, nor indicate any problems that would invalidate the effective application of this DTD.

6. Appendix A - Detailed SGML Analysis

6.1 Exoterica Validator

```
<!-- **Warning** in "\xgml\9440.dtd", line 1:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "SHORTTITLE".
-->

      <<<<< ALL ERRORS AFTER THIS POINT RELATE TO NO INSTANCE >>>>>

<!-- **Error** in "\xgml\9440.dtd", line 1:
  The document instance must consist of at least one tag or data character.
  The following element can start: "DOC".
-->
<!-- **Error** in "\xgml\9440.dtd", line 1:
  The start tag of an element that has one or more required attributes must
  not be omitted.
  Attributes "SERVICE" and "DOCID" of element "DOC" are REQUIRED.
-->
<DOC DOCSTAT="PRELIM" MANTYPE="STANDARD" SECURITY="U">
<!-- **Error** in "\xgml\9440.dtd", line 1:
  An end tag that has been declared inomissible ("-") must not be omitted.
  The element is "DOC".
-->
<!-- **Error** in "\xgml\9440.dtd", line 1:
  An element must not end before its content model is completely satisfied.
  The element with unsatisfied content is "DOC".
-->
</DOC>
<!-- 4 errors and 1 warning reported. -->
```

6.2 Exoterica XGMLNormalizer Parser

No reported errors or warnings.

6.3 Public Domain sgmls Log

TOTALCAP 101137
ENTCAP 12736
ENTCHCAP 10587
ELEMCAP 4768
GRPCAP 25024
EXGRPCAP 736
EXNMCAP 1184
ATTCAP 29920
ATTCHCAP 787
AVGRPCAP 15136
NOTCAP 96
NOTCHCAP 163
IDCAP 0
IDREFCAP 0
MAPCAP 0
LKSETCAP 0
LKNMCAPI 0

6.4 Sema Mark-it Log

```
<!--*** file:\XGML\9440.DTD line:1014 pos:31147
Document entity ended illegally
(or illegal end of entity in the main document)-->
```

6.5 SoftQuad Author/Editor Log

Error in Document Type Declaration at offset 24725 of the input stream, on line 792 of the document: Ambiguous content model. An instance of element GRAPHIC could simultaneously match two or more tokens in the content model.

```
<!ELEMENT subfig      - - ((graphic | macrograph) & figtable? &
                           legend?) >
<!ATTLIST subfig      %secur; >
```